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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,273	09/24/2003	Chin-Hsien Yen	JCLA9302	6552
23900	7590	12/01/2004	EXAMINER	
J C PATENTS, INC. 4 VENTURE, SUITE 250 IRVINE, CA 92618			ENGLUND, TERRY LEE	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/671,273

Applicant(s)

YEN, CHIN-HSIEN

Examiner

Terry L Englund

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "10" (with respect to page 1, line 17 and Fig. 1A) and "440b" (with respect to page 14, line 3 and Fig. 4). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are also objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 132, 132a, 132b, 134, 134a, 134b, and 140-152 with respect to Fig. 1B; 32, 302, 304, 308, 322, 330, and 332 with respect to Fig. 3; and 502-508, 512-518, 530, and 540 with respect to Fig. 5. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in

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reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: Page 10, line 17 "430" should be --440--; and line 20 "to gate" should be --to the gate-- to improve word flow. The description in paragraph 0036, bridging pages 12-13, needs clarification. For example, if transistor 418 is non-conductive, how can the source/drain terminal of 416, and the gate of 406 approach VIN since 408 is also non-conductive (e.g. see page 13, lines 2-4)? Page 13, lines 23-24 indicate 404 becomes conductive again. However, where in the previous descriptions was 404 ever described as being conductive in the first place? It is believed page 15, line 22 "second" and " V_{OUT2} " should be --first-- and -- V_{OUT1} --, respectively. Similarly, page 16, line 6 "first" and " V_{OUT1} " should be --second-- and -- V_{OUT2} --, respectively. Appropriate corrections are required.

Claim Objections

Claims 1-7 are objected to because of the following informalities: Since line 6 of claim 1 already recites "a ground voltage", it is suggested that same phrase on line 15 be changed to --the ground voltage--. The first occurrence of "the second terminal" on line 27 of claim 1 should be -a second terminal--, unless that terminal is actually being referred back to "a second terminal"

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of the first capacitor (e.g. see lines 23-24). Claim 2, line 1 “a first” should be --the first-- since it is believed to refer back to the “first output voltage generation unit” cited in claim 1. Claim 2, line 6 should have --the-- added prior to “source” to improve word flow. Since claim 1 already identifies the “first control signal generation unit”, that phrase on line 1 of claim 3 should be preceded by the term --the-- instead of “a.” Similar to claims 2 and 3 above, line 1 of claims 4 and 5 should cite --the second output voltage generation unit-- and --the second control signal generation unit--, respectively. Claim 6, line 1 “claim1” should be --claim 1--, and line 2 “voltage” (second occurrence) should be --voltages-- to correspond with its “first and second” phrase. Dependent claims carry over any objection(s) from any claim(s) upon which they depend. Appropriate corrections are required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The use of “the connection of the input voltage with the first output terminal” on lines 11-12 of claim 1 is confusing and/or misleading. For example, the phrase implies the connection has already been described. However, was --a connection-- or just --connection-- meant instead? Claim 1, lines 20-21 “the connection of the input voltage with the second output terminal” is confusing/misleading for the same reason as the similar phrase on lines 11-12 of claim 1 as described above. It is not clear in claim 2 how the first/second PMOS transistors, included in the first output voltage generation unit, relate to the “circuit inside the

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first output voltage generating unit" as cited in claim 1. For example, are these transistors different than the circuit? Is so, how do they relate to that circuit? Similar to claim 2 above, it is not clear in claim 4 how the third/fourth PMOS transistors, included in the second output voltage generation unit, relate to the "circuit inside the second output voltage generating unit" as cited in claim 1. The use of a "third" PMOS transistor within claim 4 implies first and second transistors, which have not been clearly identified within claim 4's chain of dependency. For example, was claim 4 meant to depend on claim 2? Similar to claim 4 above, the use of a "third" NMOS transistor within claim 5 implies first and second transistors, which have not clearly been identified within claim 5's chain of dependency. The "fifth" PMOS transistor of claim 7, line 3 implies first-fourth transistors which have not been identified within the claim's chain of dependency.

Claim 3 recites the limitation "the first PMOS transistor" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the third PMOS transistor" in line 6 with insufficient antecedent basis for this limitation in the claim.

No claim is allowable as presently written.

Allowable Subject Matter

However, claim 1 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action. There is presently no motivation to combine or modify any prior art reference to ensure a charge pump comprises the four units (i.e. first/second control signal generation units, and first/second output voltage generation units), first/second capacitors, and the two clocking signals with all of their

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respective relationships as recited within claim 1. For example, all four generation units receive the input voltage; the second control signal generation unit and the first capacitor both receive the clocking signal; and the first control signal generation unit and the second capacitor both receive the phase inverted signal.

Also, claims 2-7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. [Note: Even if the dependent claim does not have its own specific rejection, it still carries over the "connection" related rejection from independent claim 1.]

Prior Art

The prior art references cited on the accompanying PTO-892 are deemed relevant to at least sections of the claimed invention. Fig. 5 of Cernea shows what can be considered four units (e.g. each having its own current path) coupled to receive input voltage Vdd, two capacitors, and two clock signals. However, the reference does not show or disclose the specific relationships between the units, capacitors, and clock signals as recited within claim 1. For example, although second control signal generation unit 201,203 receives clocking signal Lclk, that signal is not actually received at the first terminal of a first capacitor, wherein the capacitor's second terminal is connected to the first output terminal of the first output voltage generation unit. Nakamura's Fig. 26 is an example of a charge pump type circuit that has four units (e.g. QN1L/QN2L, QN1R/QN2R, IN, and VIN all receiving input voltage Vcc; two capacitors; and two clocking signals (via the unlabeled inverters). However, this reference also does not show or

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disclose the specific relationships between the units, capacitors, and clocking signals as recited within claim 1.

Note: If the applicant wants the reference cited on page 3, lines 19-20 to be identified on the front page of the patent, when it is issued, a copy of the reference and an IDS are requested.

Any inquiry concerning this communication from the examiner should be directed to Terry L. Englund whose telephone number is (571) 272-1743. The examiner can normally be reached Monday-Friday from 7 AM to 3 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached on (571) 272-1740.

The new central official fax number is (703) 872-9306.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1562.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TLE

Terry L. Englund

27 November 2004


TIMOTHY P. CALLAHAN
SUPERVISORY PATENT EXAMINER
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